

WHAT IS CLAIMED IS:

1. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit.

2. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing of transmission of the PS-Poll so that the PS-Poll is transmitted after transmission of data from the communication application.

3. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing

of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

- 10 the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing; when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of
- 15 the radio interface section so as to receive packets buffered by the radio base station; and
- 20 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station.

4. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

- 5 a communication control section;
- a radio interface section; and
- a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:
- 10 the PS-Poll transmission timing changer determines the timing of transmission of the PS-Poll so that the PS-Poll is transmitted after transmission of data from the communication application;
- the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing;
- 15 when there is at least one communication application that

requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station; and

20 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station.

5. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

5 a communication control section;

a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing;

 when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of

15 the radio interface section so as to receive packets buffered by the radio base station;

 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving

20 operation based on beacons transmitted from the radio base station; and
 the communication control section repeatedly receives the

packets until no buffered packet remains in the radio base station by the PS-Poll, and turns off the power of the radio interface section when there is no buffered packet left.

6. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing of transmission of the PS-Poll so that the PS-Poll is transmitted after transmission of data from the communication application;

the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing;

15 when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station;

20 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station; and

25 the communication control section repeatedly receives the packets until no buffered packet remains in the radio base station by the PS-Poll, and turns off the power of the radio interface section when there

is no buffered packet left.

7. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing based on information as to whether real-time processing is necessary or unnecessary attached to the data of each communication application;

15 when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station; and

when there is no communication application that requires real-
20 time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station.

8. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing of transmission of the PS-Poll so that the PS-Poll is transmitted after transmission of data from the communication application;

15 the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing based on information as to whether real-time processing is necessary or unnecessary attached to the data of each communication application;

20 when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station; and

25 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station.

9. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

 a communication control section;

5 a radio interface section; and

 a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing based on information as to whether real-time processing is necessary or unnecessary attached to the data of each communication application;

15 when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station;

20 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station; and

25 the communication control section repeatedly receives the packets until no buffered packet remains in the radio base station by the PS-Poll, and turns off the power of the radio interface section when there is no buffered packet left.

10. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

5 a communication control section;

 a radio interface section; and

 a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing of transmission of the PS-Poll so that the PS-Poll is transmitted after transmission of data from the communication application;

the PS-Poll transmission timing changer determines whether there is a communication application that requires real-time processing
15 based on information as to whether real-time processing is necessary or unnecessary attached to the data of each communication application;

when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of
20 the radio interface section so as to receive packets buffered by the radio base station;

when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving
25 operation based on beacons transmitted from the radio base station; and

the communication control section repeatedly receives the packets until no buffered packet remains in the radio base station by the PS-Poll, and turns off the power of the radio interface section when there is no buffered packet left.

11. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer detects a changeover in the communication applications, and determines whether there is a communication application that requires real-time processing each time

the changeover is carried out;

when there is at least one communication application that
15 requires real-time processing, the communication control section
transmits the PS-Poll to the radio base station, and turns on the power of
the radio interface section so as to receive packets buffered by the radio
base station; and

when there is no communication application that requires real-
20 time processing, the communication control section turns off the power of
the radio interface section, and carries out intermittent receiving
operation based on beacons transmitted from the radio base station.

12. A radio terminal unit which sends a radio base station a
PS-Poll as a control packet for requesting delivery so as to receive packets
buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing
of transmission of the PS-Poll according to the operation mode of one or
more communication applications which are running on the radio
terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing
of transmission of the PS-Poll so that the PS-Poll is transmitted after
transmission of data from the communication application;

the PS-Poll transmission timing changer detects a changeover
in the communication applications, and determines whether there is a
15 communication application that requires real-time processing each time
the changeover is carried out;

when there is at least one communication application that
requires real-time processing, the communication control section
transmits the PS-Poll to the radio base station, and turns on the power of

20 the radio interface section so as to receive packets buffered by the radio base station; and

when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving 25 operation based on beacons transmitted from the radio base station.

13. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer detects a changeover in the communication applications, and determines whether there is a communication application that requires real-time processing each time the changeover is carried out;

when there is at least one communication application that 15 requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station;

when there is no communication application that requires real- 20 time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station; and
the communication control section repeatedly receives the

25 packets until no buffered packet remains in the radio base station by the PS-Poll, and turns off the power of the radio interface section when there is no buffered packet left.

14. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

5 a communication control section;

a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing of transmission of the PS-Poll so that the PS-Poll is transmitted after transmission of data from the communication application;

15 the PS-Poll transmission timing changer detects a changeover in the communication applications, and determines whether there is a communication application that requires real-time processing each time the changeover is carried out;

20 when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station;

25 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station; and the communication control section repeatedly receives the

packets until no buffered packet remains in the radio base station by the PS-Poll, and turns off the power of the radio interface section when there is no buffered packet left.

15. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer detects a changeover in the communication applications, and determines whether there is a communication application that requires real-time processing based on information as to whether real-time processing is necessary or unnecessary attached to the data of each communication application
15 every time the changeover is carried out;

when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio
20 base station; and

when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station.

16. A radio terminal unit which sends a radio base station a

PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing of transmission of the PS-Poll so that the PS-Poll is transmitted after transmission of data from the communication application;

the PS-Poll transmission timing changer detects a changeover in the communication applications, and determines whether there is a

15 communication application that requires real-time processing based on information as to whether real-time processing is necessary or unnecessary attached to the data of each communication application every time the changeover is carried out;

when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio base station; and

25 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station.

17. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

a communication control section;

5 a radio interface section; and

 a PS-Poll transmission timing changer for changing the timing of transmission of the PS-Poll according to the operation mode of one or more communication applications which are running on the radio terminal unit, wherein:

10 the PS-Poll transmission timing changer detects a changeover in the communication applications, and determines whether there is a communication application that requires real-time processing based on information as to whether real-time processing is necessary or unnecessary attached to the data of each communication application

15 every time the changeover is carried out;

 when there is at least one communication application that requires real-time processing, the communication control section transmits the PS-Poll to the radio base station, and turns on the power of the radio interface section so as to receive packets buffered by the radio

20 base station;

 when there is no communication application that requires real-time processing, the communication control section turns off the power of the radio interface section, and carries out intermittent receiving operation based on beacons transmitted from the radio base station; and

25 the communication control section repeatedly receives the packets until no buffered packet remains in the radio base station by the PS-Poll, and turns off the power of the radio interface section when there is no buffered packet left.

18. A radio terminal unit which sends a radio base station a PS-Poll as a control packet for requesting delivery so as to receive packets buffered by the radio base station, comprising:

 a communication control section;

5 a radio interface section; and
 a PS-Poll transmission timing changer for changing the timing
of transmission of the PS-Poll according to the operation mode of one or
more communication applications which are running on the radio
terminal unit, wherein:

10 the PS-Poll transmission timing changer determines the timing
of transmission of the PS-Poll so that the PS-Poll is transmitted after
transmission of data from the communication application;

15 the PS-Poll transmission timing changer detects a changeover
in the communication applications, and determines whether there is a
communication application that requires real-time processing based on
information as to whether real-time processing is necessary or
unnecessary attached to the data of each communication application
every time the changeover is carried out;

20 when there is at least one communication application that
requires real-time processing, the communication control section
transmits the PS-Poll to the radio base station, and turns on the power of
the radio interface section so as to receive packets buffered by the radio
base station;

25 when there is no communication application that requires real-
time processing, the communication control section turns off the power of
the radio interface section, and carries out intermittent receiving
operation based on beacons transmitted from the radio base station; and
 the communication control section repeatedly receives the
packets until no buffered packet remains in the radio base station by the
30 PS-Poll, and turns off the power of the radio interface section when there
is no buffered packet left.

19. The radio terminal unit claimed in claim 11, wherein:
when the PS-Poll transmission timing changer detects a

transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time
5 processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval.

20. The radio terminal unit claimed in claim 12, wherein:
when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time
5 processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval.

21. The radio terminal unit claimed in claim 13, wherein:
when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time
5 processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval.

22. The radio terminal unit claimed in claim 14, wherein:
when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time
5 processing necessary state, in which there is at least one communication

application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval.

23. The radio terminal unit claimed in claim 15, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval.

24. The radio terminal unit claimed in claim 16, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval.

25. The radio terminal unit claimed in claim 17, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval.

26. The radio terminal unit claimed in claim 18, wherein:
when the PS-Poll transmission timing changer detects a
transition from a real-time processing unnecessary state, in which no
communication application requires real-time processing, to a real-time
5 processing necessary state, in which there is at least one communication
application that requires real-time processing, the communication control
section controls the radio interface section to transmit the PS-Poll using a
timer value unrelated to a beacon interval.

27. The radio terminal unit claimed in claim 11, further
comprising a parameter determination section for determining the
power-saving rate of the radio terminal unit and/ or the priority of
communication based on the power-saving rates and/ or the priorities
5 which have been set for the respective communication applications in
advance, wherein:
when the PS-Poll transmission timing changer detects a
transition from a real-time processing unnecessary state, in which no
communication application requires real-time processing, to a real-time
10 processing necessary state, in which there is at least one communication
application that requires real-time processing, the communication control
section controls the radio interface section to transmit the PS-Poll using a
timer value unrelated to a beacon interval; and
the communication control section changes the timer value for
15 controlling the radio interface section according to the power-saving rate
and/ or the priority determined by the parameter determination section.

28. The radio terminal unit claimed in claim 12, further
comprising a parameter determination section for determining the
power-saving rate of the radio terminal unit and/ or the priority of

communication based on the power-saving rates and/ or the priorities
5 which have been set for the respective communication applications in
advance, wherein:

when the PS-Poll transmission timing changer detects a
transition from a real-time processing unnecessary state, in which no
communication application requires real-time processing, to a real-time
10 processing necessary state, in which there is at least one communication
application that requires real-time processing, the communication control
section controls the radio interface section to transmit the PS-Poll using a
timer value unrelated to a beacon interval; and

the communication control section changes the timer value for
15 controlling the radio interface section according to the power-saving rate
and/ or the priority determined by the parameter determination section.

29. The radio terminal unit claimed in claim 13, further
comprising a parameter determination section for determining the
power-saving rate of the radio terminal unit and/ or the priority of
communication based on the power-saving rates and/ or the priorities
5 which have been set for the respective communication applications in
advance, wherein:

when the PS-Poll transmission timing changer detects a
transition from a real-time processing unnecessary state, in which no
communication application requires real-time processing, to a real-time
10 processing necessary state, in which there is at least one communication
application that requires real-time processing, the communication control
section controls the radio interface section to transmit the PS-Poll using a
timer value unrelated to a beacon interval; and

the communication control section changes the timer value for
15 controlling the radio interface section according to the power-saving rate
and/ or the priority determined by the parameter determination section.

30. The radio terminal unit claimed in claim 14, further comprising a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities
5 which have been set for the respective communication applications in advance, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time
10 processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

15 the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section.

31. The radio terminal unit claimed in claim 15, further comprising a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities
5 which have been set for the respective communication applications in advance, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time
10 processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a

timer value unrelated to a beacon interval; and

15 the communication control section changes the timer value for
controlling the radio interface section according to the power-saving rate
and/ or the priority determined by the parameter determination section.

32. The radio terminal unit claimed in claim 16, further comprising a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities
5 which have been set for the respective communication applications in advance, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time
10 processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

15 the communication control section changes the timer value for
controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section.

33. The radio terminal unit claimed in claim 17, further comprising a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities
5 which have been set for the respective communication applications in advance, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no

communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section.

34. The radio terminal unit claimed in claim 18, further comprising a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section.

35. The radio terminal unit claimed in claim 11, further comprising:

a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of

5 communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

10 when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control
15 section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section
20 based on the remaining amount of battery charge detected by the battery charge detector.

36. The radio terminal unit claimed in claim 12, further comprising:

5 a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

10 when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time

processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control
15 section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section
20 based on the remaining amount of battery charge detected by the battery charge detector.

37. The radio terminal unit claimed in claim 13, further comprising:

a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control
15 section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section
20 based on the remaining amount of battery charge detected by the battery

charge detector.

38. The radio terminal unit claimed in claim 14, further comprising:

a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

10 when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control
15 section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section
20 based on the remaining amount of battery charge detected by the battery charge detector.

39. The radio terminal unit claimed in claim 15, further comprising:

a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in

advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

10 when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control
15 section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section
20 based on the remaining amount of battery charge detected by the battery charge detector.

40. The radio terminal unit claimed in claim 16, further comprising:

a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of
5 communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

10 when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control

15 section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section

20 based on the remaining amount of battery charge detected by the battery charge detector.

41. The radio terminal unit claimed in claim 17, further comprising:

a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

10 when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control
15 section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section

20 based on the remaining amount of battery charge detected by the battery charge detector.

42. The radio terminal unit claimed in claim 18, further comprising:

a parameter determination section for determining the power-saving rate of the radio terminal unit and/ or the priority of communication based on the power-saving rates and/ or the priorities which have been set for the respective communication applications in advance; and

a battery charge detector for detecting the remaining amount of battery charge, wherein:

10 when the PS-Poll transmission timing changer detects a transition from a real-time processing unnecessary state, in which no communication application requires real-time processing, to a real-time processing necessary state, in which there is at least one communication application that requires real-time processing, the communication control section controls the radio interface section to transmit the PS-Poll using a timer value unrelated to a beacon interval; and

15 the communication control section changes the timer value for controlling the radio interface section according to the power-saving rate and/ or the priority determined by the parameter determination section based on the remaining amount of battery charge detected by the battery charge detector.

43. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 1.

44. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 2.

45. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 3.

46. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 4.

47. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 5.

48. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 6.

49. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 7.

50. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 8.

51. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 9.

52. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 10.

53. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 11.

54. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 12.

55. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 13.

56. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 14.

57. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 15.

58. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 16.

59. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 17.

60. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 18.

61. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 19.

62. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 20.

63. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 21.

64. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 22.

65. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 23.

66. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 24.

67. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 25.

68. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 26.

69. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 27.

70. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 28.

71. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 29.

72. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 30.

73. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 31.

74. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 32.

75. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 33.

76. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 34.

77. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 35.

78. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 36.

79. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 37.

80. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 38.

81. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 39.

82. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 40.

83. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 41.

84. A radio communication system which is a radio network system, comprising:

one or more radio base stations; and

one or more radio terminal units claimed in claim 42.